Amendments To The Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A system for measuring speckle of a specimen, comprising:

a source of coherent light ~~capable of~~ being aimed at [[a]] the specimen;

a camera ~~capable of obtaining~~ configured to obtain a plurality of images of the specimen, each of the plurality of images including an interference pattern formed by the interaction of the coherent light and the specimen absent an excitation of the specimen from an external source, the interference pattern including a speckle pattern; and

a processor coupled to said camera, said processor including software ~~capable of performing~~ configured to perform speckle analysis on [[a]] the speckle pattern of each of the plurality of images, the speckle analysis including one of Fractional Dimensional Calculation analysis and Wavelet Transform analysis.

2. (Original) The system of claim 1 wherein said software is capable of converting images to intensity values.

3. (Original) The system of claim 2 wherein said software is capable of converting images stored in one of 8 bit bitmap, CIN, and JPEG formats.

4. (Currently Amended) The system of claim [[1]] 2 wherein said software is capable of normalizing said intensity values.

5. (Original) The system of claim 1 wherein said camera is capable of obtaining at least one hundred images per second.

6. (Original) The system of claim 1 wherein said camera has a memory size capable of storing greater than 300 images.

7. (Original) The system of claim 1 wherein said software is capable of performing a Fourier transform analysis on said plurality of images.

8. (Original) The system of claim 1 wherein said software is capable of performing a Power Spectral Density analysis on said plurality of images.

9. (Currently Amended) The system of claim 1 wherein ~~said software is capable of performing a~~ the speckle analysis includes the Fractal Dimension Calculation analysis ~~on said plurality of images~~.

10. (Currently Amended) The system of claim 1 wherein ~~said software is capable of performing a~~ the speckle analysis includes the Wavelet Transform analysis ~~on said plurality of images~~.

11. (Original) The system of claim 1 wherein said source of coherent light is a laser.

12. (Currently Amended) The system of claim 11 further comprising ~~wherein said source of coherent light includes a closed loop ring configuration~~ an interferometer to enhance the stability of the speckle pattern of each of the plurality of images ~~images~~.

13. (Cancelled)

14. (Original) The system of claim 1 further comprising an optical device coupled to said source of coherent light and capable of expanding a beam of light emanating from said source of coherent light.

15. (Currently Amended) A method of measuring the vibration of a specimen, comprising the steps of:

projecting coherent light at a specimen;

obtaining a plurality of images of the specimen, each of the plurality of images including an interference pattern formed by the interaction of the coherent light and the specimen absent an excitation of the specimen from an external source, the interference pattern including a speckle pattern; and

performing speckle analysis on the plurality of images to determine a characteristic of the specimen, the speckle analysis including one of Fractional Dimensional Calculation analysis and Wavelet Transform analysis.

16. (Original) The method of claim 15 wherein said step of obtaining images includes obtaining at least one hundred images per second.

17. (Original) The method of claim 15 wherein said step of performing includes calculating a Fourier Transform analysis on the plurality of images.

18. (Original) The method of claim 15 wherein said step of performing includes calculating a Power Spectral Density analysis on the plurality of images.

19. (Currently Amended) The method of claim 15 wherein said step of performing includes calculating [[a]] the Fractal Dimensional Calculation analysis on the plurality of images.

20 (Currently Amended) The method of claim 15 wherein said step of performing includes calculating [[a]] the Wavelet Transform analysis on the plurality of images.

21. (Original) The method of claim 15 where said step of projecting includes projecting a laser at the specimen.

22. (Currently Amended) The method of claim 15 where said step of projecting includes forming a closed loop ring configuration to enhance the stability of the speckle pattern of each of the plurality of images biospeckle images.

23. (Cancelled)

24. (New) A method of analyzing a specimen, comprising the steps of :

illuminating the specimen with a coherent light source;

obtaining a plurality of images of the specimen, each image including an interference pattern formed by the interaction of the coherent light and the specimen without the interaction of a separate reference beam of coherent light, the interference pattern being a speckle pattern; and

determining a time varying characteristic of the specimen based on an analysis of the speckle pattern formed by the interaction of the coherent light and the specimen through at least one of Fractional Dimensional Calculation analysis of the speckle pattern of each image and Wavelet Transform analysis of the speckle patter of each image.

25. (New) The method of claim 24, wherein the specimen is a fruit and the time varying characteristic provides an indication of a ripeness of the fruit.

26. (New) The method of claim 24, wherein the specimen is a human subject and the time varying characteristic provides an indication of a blood glucose level of the human subject.

27. (New) The method of claim 24, wherein the specimen is a MEMS device and the time varying characteristic provides an indication of a physical condition of the MEMS device.

28. (New) The method of claim 24, wherein the specimen is a nanotechnology system and the time varying characteristic provides an indication of a physical condition of the nanotechnology system.

29. (New) The system of claim 1, wherein the specimen is a time-variant specimen.

30. (New) The method of claim 15, wherein the specimen is a time-variant specimen.

31. (New) The method of claim 24, wherein the specimen is a time-variant specimen.

32. (New) The method of claim 24 further comprising the step of vibrating the specimen.